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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/017,462	12/14/2001	Martin T. Pearson	130109.442	5276
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500 7590 07/12/2005

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EXAMINER

MARTIN, ANGELA J

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,462

Applicant(s)

PEARSON, MARTIN T.

Examiner

Angela J. Martin

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
4a) Of the above claim(s) 1-15 and 35-51 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 16-34 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/13/05.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

This Office Action is responsive to the Amendment filed on March 30, 2005. The Applicant has amended claim 16; claims 1-15 and 35-51 have been withdrawn from consideration. However, a new rejection is presented for the following reasons of record.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 16-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rey, U.S. Pat. No. 3,823,358, in view of Miller et al., U.S. Pat. No. 5,465,011.

Rejection of claims 16-34 drawn to a control circuit for a fuel cell system.

Rey teaches a control circuit for a fuel cell system having a fuel cell stack and a battery (abstract), the circuit comprising a series pass element electrically coupleable between a portion of the fuel cell stack and a portion of the battery (col. 1, lines 63-67 and col. 2, lines 1-5; lines 44-58), and a regulating circuit for regulating current through the series pass element (col. 1, lines 63-67 and col. 2, lines 1-19). It teaches a diode for isolating the peaking battery from the fuel cell when the fuel cell voltage exceeds the battery open circuit voltage (col. 2, lines 3-5). It teaches diodes and their connections in the system (col. 3, lines 1-14; col. 5, lines 23-25). It teaches a voltage sensor (col. 3, lines 20-34).

Miller et al., teach a battery charging current error integrator, a battery voltage error integrator, a stack current error integrator (col. 6, lines 15-43), control terminals (col. 5, lines 13-33). It teaches diodes and regulating circuit (col. 9, lines 36-59). It teaches a microprocessor (col. 3, lines 5-15). It teaches analog circuit (col. 4, lines 61-67). It teaches a temperature sensor (col. 14, lines 64-67). It teaches current limits (col. 17, lines 5-49). It teaches means for applying a signal (col. 12, lines 45-48).

Thus, it would have been obvious at the time the invention was made to insert the teachings of Miller et al., into the teachings of Rey because Miller et al., teach a microprocessor for the regulation and control of the fuel cell system.

Response to Arguments

3. Applicant's arguments with respect to claim 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


AJM
PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER